

W5YI

Nation's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

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PERSONALIZED HAM CALL SIGNS COMING

FCC to examine '1x1' calls, electronic applications filing

On December 13, the FCC announced a *Notice of Proposed Rule Making* (NPRM) that should fulfill the desire of many amateurs for personalized or "vanity" call signs - calls that are not assigned in sequential order by the FCC's computer, but are instead composed by the licensee.

This proceeding will also take the FCC into the 20th century by investigating on-line filing of license applications by computer. Such electronic filing would be phased in over a period of time as yet undetermined. "Vanity" call signs could be available as early as next summer, however.

FCC Commissioner James H. Quello said that retired Sen. Barry Goldwater, K7UGA - a high-profile supporter of Amateur Radio - encouraged him to adopt the new system.

Ever since the FCC established its sequential call sign program, hams have deluged the FCC (and sometimes Congressional representatives) with requests for special calls, club calls and previously-held calls. With apparently a single exception - that being the grant of K3VOA to the Voice of America club station - the FCC routinely denies these requests.

The FCC's 1970s-era Honeywell computer - which costs \$1 million a year for system support - cannot provide special calls or electronic filing. FCC Private Radio Bureau Chief Ralph Haller joked that the Smithsonian Institution may want

the obsolete machine as a museum piece.

This mainframe computer will be replaced by a new networked, personal computer-based system. Mr. Haller said that he sees "no reason" why even '1x1' calls (such as 'W5Y' or 'WW') couldn't be granted!

The new call sign system will have no effect on operator privileges. Moreover, the system would not be available to new licensees. New licensees would have their initial call signs assigned by the sequential system. Then, if the amateur wanted a different call, he or she could forward a request and payment to the FCC.

FCC Commissioners meeting

New FCC Chairman Reed Hundt commented that the proposed system will bring better service, higher speed and lower costs to taxpayers. Here is the official presentation of the proposal to the Commissioners at their Dec. 13 public meeting in Washington:

(Monty DePont, Personal Radio Branch attorney, presenting:) Good morning, Mr. Chairman and Commissioners.

"A few weeks ago, the 1993 Nobel Prize in physics was awarded to two Americans who, experimentally, confirmed Einstein's General Theory of Relativity. Those two scientists, Dr.

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Joseph Taylor and Dr. Russell Hulse, took the first steps toward their careers by becoming amateur radio operators when they were teen-agers.

Dr. Taylor obtained his amateur operator license at the age of 13. He attributes his love for science to amateur radio. He is still a licensee. Although Dr. Hulse's license has lapsed, he is again interested in amateur radio. Dr. Taylor's amateur station call sign is K1JT. The "JT" stands for "Joe Taylor." Amateur operators often want to choose their own call signs. The call sign can contain their initials, a nickname, or make a personal statement of some kind.

Unfortunately, for almost 16 years we have denied requests for such vanity call signs because our automated processing system, developed in the mid-70s, can only assign call signs sequentially based upon operator classes.

In September, President Clinton signed an Executive Order that directs agencies to set new customer service standards to make the federal government more customer-driven and provide the highest quality of service possible. The Private Radio Bureau, through the use of information age technology, is ready to take a significant step forward in response to the President's directive.

The Bureau, in partnership with the Office of the Managing Director, is installing a new computer system for the processing of amateur radio licenses. The new system will allow an amateur licensee to request that a specific "vanity" call sign be assigned.

We also anticipate that we can soon start electronic filing of applications and eventually grant licenses electronically. These new capabilities will improve service to the public and make our operations more efficient.

The first item before you is a *Notice of Proposed Rule Making* that proposes rule amendments to implement a new vanity call sign system. The cost for a vanity call sign would be \$70.00, based on the fee schedule adopted by Congress in the 1993 Budget Reconciliation Act.

We are requesting comments on how the system should be administered and what features it should have. The system will maintain a sequential assignment system for those amateurs not desiring a vanity call sign.

The second item merely deletes a privatized system to administer amateur club and military recreation call signs. That system has not yet actually been put in place and in any event becomes moot based on the new computer capabilities at the Commission. We recommend adoption of both items and request editorial privileges."

FCC press release on vanity call signs

The following news bulletin was issued by the FCC after the Commissioner's meeting.

"The Federal Communications Commission proposed on December 13, 1993 to allow amateur radio operators to choose their own call signs. In light of this decision, the commission by separate action vacated the rule provisions that established private entity call sign administrators and reinstated the prior rules.

Each amateur station licensed by the Commission is assigned a unique call sign with the purpose of providing over-the-air identification of the station while it is transmitting. Many amateur radio operators have expressed an interest in being able to choose their own call signs, which might be their initials, nickname or a personal statement.

The commission's current automated processing system does not have the capability to assign call signs other than sequentially. However, the Private Radio Bureau is now installing a new automated licensing system which will permit "vanity" call signs to be selected. Thus, the Commission proposes that such call signs be available, provided that they have not been previously assigned. At the same time, the sequential call sign system would remain in place for those radio operators who do not want a vanity call sign.

The Commission supports this proposal; which would allow amateur radio operators and the Commission to benefit from a creative use of improved technology. Amateur radio operators will be able to personalize their call sign and express themselves using the airwaves. The commission will be able to improve the efficiency of its licensing process and better serve its customers, amateur radio operators.

In the future, this new automated processing system might allow amateur radio operators to check for call sign availability on their own, through an on-line system and ultimately, amateur license applications might be received electronically. This would further ease the process for both the operators and the Commission.

The proposed rule would allow the licensee of an existing primary station to request a new, vanity call sign. The Commission would also administer a club and military recreation station sequential call sign system under the new automated licensing process. Applicants for a vanity call sign would use a new application form.

On May 11, 1993, the Commission adopted an order which amended the amateur service rules to establish all sign administrators for club and military recreation stations. At that time, the Commission believed that such a system in the private sector would

make club call signs widely available and benefit the amateur community without an undue burden on FCC staff.

On June 15, 1993, David B. Popkin, W2CC, filed a Petition for Reconsideration of that action contending that the rules adopted should have been proposed in a *Notice and Comment* rulemaking proceeding and asked that they not be implemented. Popkin argued that the establishment of club call sign administrators is not minor and non-controversial in the amateur radio community.

Because the proposal, adopted by the FCC two weeks ago also will meet the needs of persons interested in obtaining a club station license, the Commission said there appeared to be merit in Popkin's argument and granted his petition. Accordingly, the Commission vacated the rule provisions that established private entity call sign administrators.

Action by the Commission, December 13, 1993, by Notice of Proposed Rulemaking.

FCC ACCEPTS PETITIONS FOR PUBLIC COMMENT

The FCC has accepted two new petitions for rulemaking and opened them for public comment. Comments are due by Jan. 5, 1994.

RM 8399, *Petition for Rulemaking* in the Matter of Amendment of Section 97.201(b), Auxiliary Station, was filed by John S. Burningham, WB8PUF of Mahopac, NY. He asked the FCC to permit auxiliary stations to transmit on the 6 meter band when retransmitting AX.25 packet communications.

"The inclusion of the 6 meter wavelength band is necessary for longer distance communications than are reliably capable on the 1.25 meter wavelength and shorter bands now authorized for auxiliary station operation," Burningham said.

RM 8400 is a *Petition for Rulemaking* in the Matter of Amendment of FCC Current Commercial License Structure to Restore First Class Radiotelephone Licenses by Using the Commercial Operator License Examiner Manager System (COLEMs) to Administer Examinations.

Petitioner Jim Wills, N5HCT of Tyler, Texas argued that the FCC's 1984 discontinuance of the First and Second Class Radiotelephone Licenses was an effort to create a "classless society of radio technicians" that caused a "blow to morale in the technical world that still exists today. No longer can a technician be respected because he holds a 1st or 2nd Class (Commercial Radio Operator) license."

"Everyone is now in the General category. This effort to create a classless society of radio technicians should and must be reversed," Wills said. "For example in education there is Bachelor, Master, and Ph.D. Certifications by professional organizations such as

The National Association of Radio and Telecommunications Engineers (NARTE), and in all other endeavors of mankind there exists levels of achievement. It is the nature of man to achieve, and seek reward. The 1st Class Radiotelephone License has always been the most prestigious radio license in the free world."

"The FCC has held the 1st Class Radiotelegraph and the 2nd Class Radiotelegraph licenses intact, even though there is an ever DECREASING demand and requirement for them. The United States Coast Guard has even ceased to monitor the international telegraph emergency frequency of 500 kHz. The U.S. Navy no longer requires radiotelegraph as a skill for its radiomen. The U.S. Maritime Service no longer requires a telegrapher onboard U.S. Merchant ships."

"In view of the above historical data, there IS an ever increasing demand for HIGH TECH skills throughout the Broadcast Radio, Television, Commercial 2-Way Radio, Global Communication, and electronic experimental career fields that would benefit from restoring the 1st Class Radiotelephone License."

Assigning COLEMs to write the new test element would be "virtually cost-free" but would create "critically needed revenue for the FCC," Wills said. He asked that all present holders of General Radiotelephone Licenses be awarded a Second Class Radiotelephone License for a fee. "Number the new radiotelephone element 4 as applicable or create a new category. ...Make all classes of licenses effective for 10 years, renewable for a fee."

It should be added that Jim Wills was the amateur who was almost single-handedly responsible for getting the Clinton Administration to add *Amateur Vanity Call Signs* to their *Schedule of Regulatory Fees* at an annual regulatory fee of \$7. Clinton signed the Budget Reconciliation Bill of 1993 (Public Law No. 103-66) on August 10, 1993. The Budget Act contains a new regulatory fee schedule "... designed to recover those costs incurred by the Commission that are attributable to the Commission's policy and rulemaking activities, as well as its enforcement, user information and international activities."

The new regulatory fees do not apply to amateur radio operator licenses - only to optional amateur-selected call signs. We understand that fee collection for vanity ham calls is supposed to begin on April 1st. The \$70 cost is based on the legislation which allows small fees to be collected in advance for a full (ten year) license term.

The \$70 cost is not cast in concrete, however. It could be increased. "The legislation also grants the Commission authority to periodically review the statutory fee schedule and to adjust the fees to reflect changes in its appropriation from year to year. It may also add, delete or reclassify services under certain circumstances." That quote is from the FCC *Public*

Notice on regulatory fee implementation issued this past fall.

In other words, the FCC can add additional services and charge for them. The Commission will not actually get those funds to augment their budget. They still go to the General Treasury. The fees collected, however, will be viewed by the administration as a credit to their budget and considered when increased appropriations are requested. The FCC will shortly become self-sufficient.

We were told this week that the administration is already considering a 15% increase in their \$35.00 Commercial Radio license application fee. The \$35.00 cost could become \$40.00. The FCC still does not know how much the regulatory fee should be for the *Restricted Radio Operator Permit* (RP) or the *General Radiotelephone Operator License* (GROL) since these are lifetime licenses. A *Notice of Proposed Rulemaking* implementing Regulatory Fees will raise that issue.

Even though the legislation is in place, regulatory fees still must go through the rulemaking process. The NPRM will be released almost immediately and will carry a very short (30 day) comment and (15 day) reply period. The FCC says it wants to begin collecting Regulatory Fees on April 1st. If it pulls it off, it will be a world's record for running an issue through Notice and Comment rulemaking!

One thing for certain. The price of Commercial Radio Operator licenses is going up ...and soon! Effective April 1st, applicants for new Commercial Radio Operator licenses will pay the COLEM (Commercial Operator License Examination Manager) test fee plus the regulatory fee - another \$35 or more. ...two fees instead of one. The examination fees vary by COLEM - from \$25.00 per element to over \$100. (Our National Radio Examiners Division charges an examination fee of \$35.00 per license.)

And there will still be two fees on renewals and other routine license modifications which do not require an examination. The Application Fee (\$35 or \$40) is being added to the Regulatory Fee (another \$35) to cover the cost of processing the paperwork. The additional Application Fee will only be paid when the applicant is not examined by a COLEM. Stay tuned. These two NPRMs (amateur vanity call signs and implementing Regulatory fees) should be issued by our next issue.

PHASE 3-D PROJECT SHIFTS INTO HIGH GEAR

Following a series of meetings both in the United States and Germany involving key members of the International Phase 3-D Project Team, work on construction of the new amateur satellite is moving forward at an accelerated pace.

On December 11th and 12th, Hanspeter Kulen,

DK1YQ along with Dr. Karl Meinzer, DJ4ZC, AMSAT-DL President and Phase 3-D Team leader hosted a key meeting of the project's international participants near Munich, Germany. AMSAT-NA's Vice President for Engineering, Dick Jansson, WD4FAB, and Dr. Tom Clark, W3IWI, AMSAT-NA's President Emeritus and a key member of the Phase 3D Project are "on track" for the expected launch of Phase 3-D in 1996.

"Each country's team is performing their assigned tasks very well," said Jansson on Dec. 13th, soon after his return from Germany. Clark observed that, "we are really pulling together as an international group." He went on to note that "thanks to the work of our European, South African and Japanese friends, it now looks like we'll have some superb cameras, some really 'hot' receivers and some very powerful transmitters on Phase 3-D when it is launched in 1996." Specifically Dick mentioned that Mike Dorsett's (G6GEJ) efforts on the spacecraft's 2 Meter transmitter are right on schedule and that Mike's proposed construction approach had already met all of the key design parameters.

During the Munich meeting, Jansson was presented with a token of appreciation by Dr. Karl Meinzer for his outstanding contributions to the project. Karl cited Dick's superb design work on the Phase 3-D structure and thermal control system as well as his tireless efforts in support of the overall international project.

Just prior to his meetings in Germany, Jansson met with both students and faculty members from AMSAT-NA's team at Weber State University in Ogden, Utah. Weber students are now in the process of building the flight model structure for Phase 3-D. Dick reports that this vitally important portion of AMSAT-NA's role in the overall effort was "also on schedule for delivery of flight hardware next June."

Other major contributions by AMSAT-NA to the project in the coming year will include the purchase of the spacecraft's heat pipes, solar panels and flight batteries, as well as final construction of the spacecraft's GPS positioning experiment, antennas and propellant flow hardware. In addition, yet another group of some 15 dedicated volunteers have now been assembled in the Orlando, Florida area. These people are already in the process of both securing and preparing the spacecraft's final integration facility. This team will also assist other project team members with integration activities beginning in mid-1994.

Jansson concluded by saying, "there is still a lot of work left on our plates between now and 1996." He also had high praise for the many volunteers now working on the project. "The ongoing work of our volunteers is of high quality, and is much appreciated. Without their selfless efforts, the Phase 3-D project simply would not happen," Jansson said.

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OCTOBER VE PROGRAM STATISTICS

<u>October</u> <u>No. VEC's</u>	<u>1991</u> <u>18</u>	<u>1992</u> <u>18</u>	<u>1993</u> <u>18</u>
Testing Sessions	839	918	788
<u>VEC</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
ARRL	44.5%	53.8%	52.2%
W5YI	37.5	32.9	35.3%
WCARS	2.5	2.6	2.4
CAVEC	4.6	2.9	2.2
GtLakes	4.3	0.9	1.0
LARC	1.0	1.4	1.0
Others (12)	5.5	5.2	6.1
Year-to-Date Sessions	6563	8283	8904
Elements Administ.	16972	15468	11920
<u>VEC</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
ARRL	49.1%	58.4%	59.1%
W5YI	31.1	26.8	25.5
CAVEC	3.9	2.0	1.8
WCARS	2.7	4.0	2.3
LARC	2.8	2.7	2.4
GtLakes	3.6	0.5	1.0
Others (12)	6.8	5.6	7.9
Year-to-Date Elements	140850	162624	159126
Applicants Tested	10251	9351	6888
<u>VEC</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
ARRL	48.3	58.1%	58.2%
W5YI	31.4	27.3	26.8
CAVEC	3.6	1.9	1.7
WCARS	2.7	4.1	2.3
LARC	2.7	2.4	2.2
GtLakes	4.6	0.7	0.9
Others (12)	6.7	5.5	7.9
Year-to-Date Tested	84745	97549	93322
<u>October</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
Pass Rate - All	67.5%	63.7%	65.0%
Applicants/Session	12.2	10.2	8.7
Elements/Applicant	1.7	1.7	1.7
Sessions Per VEC	46.6	51.0	43.8
Administrative Errors by VE's/VEC's			
<u>October</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>
Defect. Applications	0.57%	0.0%	0.2%
Late Filed Sessions	1.5%	0.8%	2.3%
Defective Reports	0.4%	0.0%	0.0%

Note: The two largest VEC's, (ARRL/W5YI) accounted for 87.5% of all October 1993 test sessions, 84.6% of the exam elements and 85.0% of the applicants.

[Source: Personal Radio Branch/FCC; Washington, D.C.]

AMATEUR RADIO CALL SIGNS

...issued as of the first of December 1993:

<u>Radio</u> <u>District</u>	<u>Gp. "A"</u> <u>Extra</u>	<u>Gp. "B"</u> <u>Advan.</u>	<u>Gp. "C"</u> <u>Tech/Gen</u>	<u>Gp. "D"</u> <u>Novice</u>
0 (*)	AA0PO	KG0KD	N0ZLM	KB0LMX
1 (*)	AA1IB	KD1SQ	N1QWR	KB1BEQ
2 (*)	AA2QQ	KF2SX	N2XFU	KB2QQJ
3 (*)	AA3GP	KE3LH	N3QZL	KB3AZK
4 (*)	AD4NS	KR4IY	(***)	KE4BYT
5 (*)	AB5RK	KJ5TG	(***)	KC5EIK
6 (*)	AB6YW	KN6VX	(***)	KE6DOF
7 (*)	AB7AI	KI7TW	(***)	KB7ZRB
8 (*)	AA8NJ	KG8FM	(***)	KB8QOW
9 (*)	AA9JM	KF9SP	N9VPC	KB9IWA
N. Mariana Is.	AH0W	AH0AO	KH0CG	WH0AAAY
Guam	NH2Z	AH2CU	KH2IL	WH2ANI
Johnston Is.	AH3D	AH3AD	KH3AG	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii	(**)	AH6NE	WH6QL	WH6CRB
Kure Is.			KH7AA	
Amer. Samoa	AH8H	AH8AF	KH8BA	WH8ABB
Wake W. Peale	AH9C	AH9AD	KH9AE	WH9AAI
Alaska	(**)	AL7PL	WL7OW	WL7CHJ
Virgin Is.	WP2D	KP2CC	NP2GU	WP2AHU
Puerto Rico	(**)	KP4VZ	(***)	WP4MLZ

CALL SIGN WATCH: *=All 2-by-1 "W" prefixed call signs have been assigned in all radio districts. Group "A" 2-by-2 format call signs from the AA-AK block are next assigned to Extra Class amateurs.

**=All Group A (2-by-1) format call signs have been assigned in Hawaii, Alaska and Puerto Rico. Group "B" (2-by-2) format call signs are assigned to Extra Class when Group "A" are depleted.

***=Group "C" (1-by-3) call signs have now run out in the 4th, 5th, 6th, 7th, 8th and Puerto Rico call districts. The "0" and 2nd call sign districts will be the next to run out of the 1-by-3 "N" call signs. It is anticipated that there will be no Tech/Gen. Group "C" call signs left at all within six months. According to the rules (adopted by the Commission Feb. 8, 1978, Docket No. 21135), Technician/General class amateurs are next assigned Group "D" (2-by-3 format) call signs when all Group "C" have been assigned.

Upgrading Novices holding a 2-by-3 format call sign in the 4th, 5th, 6th, 7th, 8th and Puerto Rico call areas will no longer be able to request a Group "C" call and will be automatically assigned another more recent 2-by-3 format call sign if they do! The FCC will not be going back and reassigning unused "K" and "W" 1-by-3 format call signs. Stay tuned, however, for the new "vanity" call sign program.

[Source: FCC, Gettysburg, Pennsylvania]

INTERNATIONAL HAM RADIO NEWS

● **Phase 3D Frequencies** - The following are the final frequencies for the Amateur P3D International Satellite:

1. 21.210 MHz 21.250 MHz uplink only (HF band) - Mode K
2. 29.330 MHz CAM (Compatible Amplitude Modulation) downlink only. (no transponder) spare frequencies : 29.310 MHz 29.320 MHz 29.340 MHz and 29.350 MHz - Mode A
3. 145.805 MHz - 145.995 MHz uplink and downlink - Mode V
4. 435.200 - 435.700 MHz uplink 1
436.000 - 436.500 MHz uplink 2
435.300 - 435.700 MHz downlink - Mode U
5. 1268.5 - 1269.0 MHz uplink 1
1269.0 - 1269.5 MHz uplink 2 - Mode L
6. 2400.5 - 2400.9 MHz downlink
2400.1 - 2400.5 MHz uplink - Mode S
7. 5840 MHz center frequency channel 25 kHz wide downlink only - Mode C
8. 10451.0 - 10451.5 MHz downlink - Mode X
9. 24048 MHz downlink channel 25 kHz wide - Mode Ka

Each frequency band 500 kHz wide (uplink) and 400 kHz wide (downlink) except the mode V is divided in an analog segment and a digital segment. The digital segment is in the lower frequency part of the band, the analog segment is in the upper frequency part of the band. The uplink segments are of equal width for both analog and digital modes. The downlink segment for digital modes is 150 kHz wide analog modes downlink is 250 kHz wide.

The exact position of the beacons will be determined as soon as all relevant information is available. The above frequencies are FINAL and can only be changed for VERY good reasons. (Message from: Freddy de Guchtere ON6UG - IARU Satellite Coordinator.)

● **Roger Wiechman, WA6ZVP** reports that he heard one of the **Russian Cosmonauts aboard the MIR space station on voice** on 145.550 MHz. At first he thought it was one of the Los Angeles "locals" QRMing the frequency. Once he turned up the volume, however, much to his surprise he heard the voice of a cosmonaut speaking broken

but very understandable English. The cosmonaut was in a QSO with another station which could not be heard locally or from a mountain top remote. "During the 5 or 6 minutes that I heard him, he did not identify so I don't know what call he is using. Presumably it was RØMIR." The best that WA6ZVP can recall, the cosmonauts have not been on voice for over 4-6 months. (Posted on AMSAT News Service)

HS1JC/N5PTF (Kunchit Charman) responded to the above bulletin by saying, "Last week I had QSO with Alexander. I try to use packet connect to RØMIR and he call back by voice. I think that he use the same call sign as packet. Last month, my friends (HS1CES, HSØGOS) also QSO with him. All QSO done when he passing Thailand after mid-night (local time)."

● A 15 year old teenager from the Isle of Wight has been named the **British Isles "Young Amateur of the Year"** according to a press release from the **UK Radiocommunication Agency**. **Tim Munn (call sign 2EIAMX/G7OTO)** became interested in ham radio at aged 10 and now runs a radio club at his school. He is also the youngest Novice instructor in Great Britain. (The UK introduced a Novice license in 1991.) Tim has also constructed many pieces of home-made transmitting and receiving equipment.

The **Young Amateur of the Year Award** (which carries a cash prize) is a joint government and **RSGB (Radio Society of Great Britain)** effort open to UK amateurs who have not reached their 18th birthday.

● **IARU Region 1 (Europe, UK, Africa) Conference News** - The following HF band segments in IARU Region 1 have been designated "Digimode": 1.838-1.842, 3.56-3.62, 7.035-7.045, 10.140-10.150, 14.070-14.112, 18.101-18.109, 21.080-21.120, 24.920-24.929 and 28.050-28.150 MHz. There would be no unattended digital operation except in Africa and the Middle East, between 10.14-10.15 MHz during daylight hours.

It was also agreed that a Morse code qualification for operation on bands below 30 MHz should be continued indefinitely and that the low power definition of "QRPP" be limited to 1 watt or less output. Region 1 nations will

also consider the extension of the 28 MHz band to 30.00 MHz.

Eight repeater channels were agreed on for the 50 MHz (6 m) band. They will have 20 kHz spaced inputs 51.210 - 51.350 MHz, with outputs 600 kHz higher. (50.550 MHz was designated a facsimile working frequency.)

The Uganda Posts and Telecommunications Corporation has advised the ITU and IARU Region 1 that a ban on amateur radio communications, imposed in the early 1970s has been lifted. China is now permitting operation by individuals using BA, BD and BG prefixes. Ham radio is booming in Thailand! Ten years ago there were only a handful of Thai amateurs. Now there are 60,000 (mostly VHF) licensees with another 100,000 now waiting for completion of the paperwork.

● **Sweden has introduced a new "Class N" (Novice) license** to encourage young students to become radio amateurs. The license can be held from the calendar year the licensee becomes 10 years old, but until age 14 he or she must remain under the supervision of an older amateur holding a standard license. Novices, who must upgrade to a standard license within 6 years, may operate on the 2m and 70-cm bands with limited power. The license exam covers regulations, safety and amateur radio procedures. (Thanks: Tony, G4FAI)

● **U.S. and Russian scientists will shortly be able to communicate** with each other over an international computer network now being set up by NASA's Ames Research Center, Mountain View, CA. Starting Jan. 1994, the NASA Science Internet (NSI) will connect research sites in the U.S. with Russia's Space Research Institute (IKI) in Moscow.

● **Want to buy a first class DX location?** The **Voice of America** has announced that it will solicit offers for the purchase of its broadcasting facility in Belize, Central America! The station will go QRT no later than March 31, 1994. The station is equipped with two 100 kW AM transmitters, two directional antenna arrays, an on-site diesel power plant, satellite links and control/monitoring equipment. (Interested? Call the VOA at 202/619-2538.)

1993 - THE YEAR IN REVIEW!

About this time every year we reflect on what has happened during the prior year - and look ahead to what may be coming. The year started off with:

Excellent ham radio growth!

A year ago, the ham radio operator census in the United States stood at 587,657 individual operators. It is now up around 635,000 (estimate) - a gain of about 8%. Before the arrival of the No-Code Technician Class ticket, ham radio was growing at a much lesser rate. And during the mid-1980's, it was not growing at all! See Table No. 1 for the year ending census comparisons by license class. All figures are from the FCC's licensing division in Gettysburg, Pennsylvania. Of particular interest is that the number of Technician Class has tripled during the past ten years. This single license class accounts for most of the ham radio growth over the past decade.

Table No. 1

U.S. Amateur Radio Operators by License Class

Year	Extra	Adv.	Gen.	Tech.	Nov.
1982	31530	94588	119684	75703	88799
	Total:	410304	.8% Increase		
1983	34511	95771	118223	77298	85823
	Total:	411626	.3% Increase		
1984	36149	97765	116963	80680	80599
	Total:	412156	.1% Increase		
1985	38495	97959	117107	83679	78616
	Total:	415856	.9% Increase		
1986	41082	97771	115715	85312	79882
	Total:	419762	.9% Increase		
1987	43902	98610	114398	93466	83013
	Total:	433389	3.2% Increase		
1988	46885	98681	113082	101495	80168
	Total:	440031	1.5% Increase		
1989	50324	102141	117153	115427	84747
	Total:	470792	7.0% Increase		
1990	53836	105309	119796	127427	93875
	Total:	500243	6.2% Increase		
1991	57488	107642	122592	158041	97354
	Total:	543117	8.6% Increase		
1992	61319	109882	125207	192184	99065
	Total:	587657	8.2% Increase		
1993*	64869	112512	127717	223962	100257
	Total:	628727	7.0% Increase (*)		

(* = 1993 figures are actual figures through October 1993. Growth rate will be about 8% for 1993 when the full year's figures are in. Note the consistent growth rate after the advent of the no-code license in 1991. The first Codeless Technician license was issued on March 12, 1991.

For the last three years, the Technician Class has been growing at an annual rate of nearly 25%. Ten years ago, one amateur in five held a Technician ticket - and there were more Novice

operators than Technicians. Today, one-third of all ham radio operators hold a Technician Class license. There are now more than twice as many Technicians as Novices. The ham ranks have swelled by more than 100,000 new Techs since January 1991.

This is not to say that the other classes are not growing, too. They are, but at a much lesser rate. And contrary to popular opinion, more licensees are upgrading their license than ever before. FCC statistics show that an average of 1,100 Tech and higher class amateurs upgraded their license monthly during the three year period prior to "No-Code." It jumped to more than 1,300 a month after the code-free ticket began in early 1991.

"No Business" Rule Changed!

For years, amateurs have wanted to be able to use their Amateur Radio communications capability for more activities than the FCC Rules allowed. They got their wish effective September 12th. Acting at the request of the Amateur community, the Commission agreed to relax the permissible communications content rule listed in Section 97.113. Basically that rule bans all commercial radio transmissions.

This proceeding got its start more than two years ago when the FCC suggested permitting "other than regular" amateur communications on the ham bands to "provide greater flexibility to transmit communications for public service projects and personal matters." Historically, amateurs have been restricted to emergency, technical and non-business communications.

Ham radio was never intended to be a communications service to assist public safety and other government agencies ...or for such things as logistical support for parades and other events, classroom instruction, ordering supplies for remotely located organizations, supplying news to the media, selling ham gear, rebroadcasting non-amateur communications ...or for expediting the personal and club business of ham operators.

The challenge was how to write a simple, easy to understand rule that allows an expansion of amateur communications without throwing open ham frequencies to those who would exploit them commercially. In August 1993, the Federal Communications Commis-

sion basically adopted the ARRL proposal. Any amateur-to-amateur and personal business communications are now permitted unless:

(a.) **Specifically prohibited.** These include:

1. Music (except incidental space shuttle music);
2. Communications facilitating a criminal act;
3. Messages obscured by codes or ciphers;
4. Obscene or indecent words or language; and
5. False or deceptive messages, signals or identification.

(b.) **Transmissions for compensation.** The following exceptions apply:

1. Morse code practice and information bulletins (special criteria);
2. Classroom teachers using ham radio in the classroom.

(c.) **Transmissions for the pecuniary benefit of the station control operator or his/her employer** are prohibited.

The following communications are permitted, but not "...on a regular basis" which was not further defined:

1. Communications which could reasonably be furnished through other radio services;
2. Notices concerning sale or trade of amateur station apparatus; and
3. Retransmissions of Government provided space shuttle, propagation and weather forecast broadcasts.
4. News information dissemination to the public, news gathering and program production for broadcast purposes is still prohibited unless related to the immediate safety of human life or the protection of property and no other means of communication is reasonably available.

The Commission established a 4-part test that amateurs will have to use in deciding whether or not they should transmit a particular communication. That test is:

1. whether the communications are for hire or material compensation;
2. does the control operator or;
3. his employer have a pecuniary interest in the communication, and;
4. is it specifically prohibited.

If the control operator determines that he is not on the wrong side of one of those standards, then it is up to the operator to decide whether or not to transmit that message.

Personal and club station call signs

Obtaining a special call sign has always been a key wish of every amateur and ham club. As it is now, you can change your own call sign but you can not get a specific combination.

The FCC had intended to permit call sign administrators from the private sector to issue club and military recreation ham station call signs. This all changed this past summer when Congress not only surprised the amateur community but the FCC as well by including a provision for "vanity" amateur station call signs (at a cost of \$7 a year) in President Clinton's much publicized Deficit Reduction Plan.

The FCC's new computer system is now being programmed to issue distinctive "vanity" station call signs. These user-selected call signs will be in addition to the current Group A, B, C and D call sign system adopted in 1978.

Thus it could be possible as early as this summer - to obtain any unassigned call sign, "will" call signs to heirs or friends ...or retire it permanently. The details have yet to be worked out but the FCC has already informally commented on how the program might work. An applicant would list up to five call signs and the first available call would be assigned.

And there could be two types of "reserved" calls. One, upon notification, a current holder of a call sign could reserve his/her call for assignment only to a designated club station or to a designated person upon that person becoming eligible for a call sign in that group.

Second, anyone - amateur or non-amateur - could reserve any available call sign. This reserved call sign would be available for assignment only to a designated club station or to a designated person, including the person making the reservation upon that person becoming eligible for a call sign in that group.

Now that the FCC has authority to issue "vanity" station call signs, the special club and military call sign program has been discontinued.

The FCC has also proposed a system that would allow new hams to become control operators immediately after passing the required examinations. The "instant authorization" would utilize a temporary call sign from the WZ-by-3 letter call sign block. A new ham would

simply use his initials as the suffix and the appropriate license class identifier indicating that he/she has qualified for a specific license class. This temporary self-assigned call sign could be used for a period not to exceed six months.

A "redeveloped amateur licensing system" scheduled for implementation in the first quarter of 1994 will accommodate both paper and electronic filings from the Volunteer-Examiner Coordinators. VECs will be able to file Form 610 amateur applications with the FCC over the phone lines. This will result in licenses being issued faster.

Novice Exams Now Handled by VECs

The FCC added Novice testing to the Volunteer-Examiner Coordinator (VEC) System in July 1993. The FCC agreed to include the responsibility for the preparation and administration of Novice Class operator license examinations under the VEC System with the same conditions that apply to the four higher classes of licenses.

The FCC also authorized General Class VEs to conduct Technician Class examinations since this examination requires more examiners.

Novice/Tech. Question Pools Revised

The Amateur Service rules require that "All VECs must cooperate in maintaining one question pool for each written examination element." Novice and Technician questions are reviewed together since they are the sole requirement for the new no-code Technician license.

Volunteer examiners began using the new questions in their examinations on July 1st. The new questions contain approximately 10% less questions.

On Dec. 1st, the VECs Question Pool Committee completed the process of revising the Element 3(B) General Class questions which must be used in all General examinations effective July 1, 1994. In November, Novices obtained operating authority in all of the 222-225 MHz band.

Privatizing Commercial Radio Exams

Because of budgetary constraints, the FCC asked for and received legislation authorizing it to delegate the examination of commercial radio operators to private organizations.

The FCC's new Commercial Radio Operator testing program is directed

by nine private organizations known as Commercial Operator License Examination Managers (COLEMs. A "Proof of Passing" certificate (PPC) issued by the COLEM to examinees certifies the examinee's qualifications. The entire testing program is very similar to the VEC System in the Amateur Service.

Of interest to ham radio operators is that Amateur Extra class operators are automatically given credit for the telegraphy portion of the Second Class Radiotelegraph Operator Certificate.

What's ahead for 1994?

Final rules are in the process of being issued on packet message forwarding. The FCC has proposed holding the licensee of the station originating a message and the first forwarding station accountable for the transmission of prohibitive communications. The Commission will also be ruling on allowing amateur packet radio at 219-220 MHz to partially replace amateur spectrum lost at 220-222 MHz.

Licensing of visiting foreign amateurs by VECs is a novel scheme that will basically replace reciprocal licensing. Foreign amateurs would be able to operate their amateur radios for up to 60 days after passing a 20 question multiple-choice test on FCC rules.

Final rules are due shortly on automatic control of HF packet. The current rules do not permit automatic networking below 50 MHz. The big concern about HF packet is the potential for "robot" stations to interfere with HF ham band operation.

The FCC has proposed new sharing partners for ham radio in the 70-cm and 33-cm ham bands. Wind profilers are ground-based radars which measure wind speed and direction in real time. Currently this is accomplished by airborne balloons called radiosondes which must be released manually. We share the 420-430 MHz ham band with the government and they want wind profilers at 449 MHz.

The 33-cm ham band at 902-928 MHz is used very little by amateurs. The FCC has suggested that a new Location and Monitoring Service (LMS) be located in that band. One of the uses of LMS is for automobile vehicle monitoring (AVM) - the electronic counting of vehicles. Spectrum allocation rules say that ham radio is secondary to AVM use at 33-cm.

HAM RADIO WAVES "HAUNT" NEIGHBORS

That's the title of a newspaper story carried in a recent issue of the *Atlantic City Press*.

It seems that two neighbors of New Jersey amateur **Tony Marino, KT2W** are charging him with trespass, inflicting severe emotional distress, causing a continuing nuisance, invasion of privacy and breaking zoning laws. Michael and Marlene Morris says Marino's ham radio transmissions come through their home electronic equipment - even their telephone and door chimes on a daily basis. Another neighbor, Robert Schnabel has now joined in the civil suit.

The Morrises claim Marino has a license to operate "But he doesn't have a license to come into my home." They see no difference between Marino physically or electronically breaking into their home.

Motions in the suit were heard on Dec 3rd and a court date is now likely for early 1994. According to the newspaper article, the complainants have bills totalling \$30,000 for attorneys and electronics experts. The Morrises and Schnabel are claiming nearly \$100,000 in damages which includes property value lost, legal and expert fees, appraisal fees and court stenographer costs. Marlene Morris says she considered selling their home "...but found we would have to inform prospective buyers about the interference.

"We are not in any way contesting his license," Schnabel said. "What we are saying is he's on top of us with a 64 foot radio tower and we want him to pay damages." This case could set a precedent. It will probably be the first electronic interference case that goes to trial based on the concept of electronic trespass and invasion of privacy.

The Federal Communications Commission inspected Marino's ham station in 1990 and determined that he is in full compliance with the rules. The FCC contends that the problem is with the neighbor's equipment. "It wasn't shielded properly when it was manufactured." As far as the Commission is concerned, it is the responsibility of Marino's neighbors to retrofit their equipment to filter out the transmissions.

That is not the way the Morrises and Schnabel see it. They would like to see a law passed that puts responsibility where they believe it belongs - on the ham radio operator not to trespass on or to interfere with the lives of neighbors.

Schnabel said an electronics expert found the wattage coming into their homes when Marino is transmitting at 800 watts to be 100,000 times stronger than the waves from the strongest radio station in the area. "Then you get into the electromagnetic fields and whether or not they cause health problems," said Marlene Morris. "That's a whole separate issue."

A news release distributed by the Long Island Section of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) says that...

FM RADIO STATIONS WASTE ENERGY AND CAN BE A RADIATION HAZARD

"AM radio transmitters in Nassau and Suffolk counties (Long Island, NY) are estimated to waste 620 million watt-hours of electric energy each year, and to pose a radiation hazard to those in the vicinity of high power transmitter sites that is 20 dB (100 times) greater than need be. This was concluded in a study conducted by Dr. Stephen Blank, Professor of Electrical Engineering at New York Institute of Technology. The Long Island Section of the IEEE has reviewed Dr. Blank's study and has endorsed its conclusions.

Dr. Blank's study further concluded that both the waste and the radiation hazard could be eliminated by changing from the currently used circularly polarized mode of transmission to a vertical polarization. This could be accomplished at low cost and without sacrificing performance or area coverage, by changing the antennas used at transmitter sites.

Except for a tiny minority of people who still use old style horizontally polarized antennas for FM reception, the great majority of listeners in the home and the automobile would not have to make any adjustments. Nationally, this change would be a significant contribution to energy conservation and radiation hazard reduction." [End of press release.]

According to December edition of "The Pulse" - the IEEE Long Island section monthly newsletter, "The problem results from an FCC regulation (§73.316(a)) that mandates the use of circular polarization (CP) - a method of FM transmission that results in a significant waste of electric energy and creates a potential health hazard. The solution is to convert to vertical polarized transmit antennas. The FM stations' cost would be recovered within a year from lower energy costs."

- The FCC's Tampa office has issued **Notices of Apparent Liability** (NAL's are administrative fines) to two Florida firms for selling unauthorized radio frequency amplifiers which boosted the power of Citizen Band Radio Stations from the legal power limit of four watts to more than 250 watts. The use of such illegal equipment causes interference to television, radio and telephones, the FCC said.

U.S. Electronics, Inc., Tampa, FL \$20,000

All American Radio, Ocala, FL \$11,200

In addition, fines of \$6,400 to \$16,000 were issued to various firms and people for operating without an FCC license or operating on unauthorized frequencies.

NEW JERSEY CONSIDERING RF RADIATION FEES

The Department of Environmental Protection and Energy in New Jersey is proposing a fee pertaining to owners of RF generating devices. In summary, the proposed rule will require the owners of sources of radio frequency and microwave radiation between the frequencies of 300 KHz and 100 GHz that have the potential of exposing either workers or the general public to radiation levels in excess of the regulatory limits specified in N.J.A.C. 7:28-42 *Radio Frequency Radiation* and all owners of radio frequency and microwave heaters, sealers and industrial ovens to register those sources with the Department within 60 calendar days after the effective date of this rule.

The owners of all units that are subject to this rule shall be assessed an initial registration fee and will be required to provide technical information to the Department. After the first year of the program, the owners of registered units will be assessed an annual renewal fee. The amounts of the proposed fee are based on the services to be performed by the Department. A copy of the Department's calculations of the initial and annual renewal fee is available for inspection by the public at the Bureau of Environment Radiation, 729 Alexander Road, Princeton, New Jersey. The Department requests that any interested person telephone to make an appointment to review the documents.

A public hearing to discuss the rule will be held on January 11, 1994, beginning at 9:30 AM, in the Department's Public Hearing Room, 401 East State Street, Trenton, New Jersey. The Department will accept comments on the proposed regulations until January 20, 1994. Comments should be addressed to Janis E. Hoagland, Esq., Administrative Practice Officer, New Jersey Department of Environmental Protection and Energy, Office of Legal Affairs, CN 402, Trenton, New Jersey, 08625-0402. If you have any questions regarding the applicability of this rule to your organization, you may contact Ms. Deborah Wenke with Radiation Protection Programs at 609-987-2101.

Radio Frequency Protection Guides (RFPG) for whole body exposure

Freq- uency Range	Maximum Allowed Mean Squared Electric Field Strength (V/m) ²	Maximum Allowed Mean Squared Magnetic Field Strength (A/m) ²	Equivalent Plane Wave Power Density mW/cm ²
300 KHz-3 MHz	400,000	2.5	100
3 - 30 MHz	4,000 (900/f)	0.025 (900/f)	900/f
30 - 300 MHz	4,000	0.025	1.0
300 MHz-1.5 GHz	4,000 (f/300)	0.025 (f/300)	f/300
1.5 GHz-100 GHz	20,000	0.125	5.0

Notes:

- 1) f - frequency (MHz)
- 2) For near field exposure, both the mean squared electric and magnetic strengths shall be determined.
- 3) For frequencies below 300 MHz, both the mean squared electric and magnetic field strengths shall be determined.
- 4) At frequencies above 300 MHz, either the mean squared

electric or magnetic field strengths shall be determined.

- 5) The applicable RFPG shall be averaged over any 0.1 hour interval.
- 6) Measurement to determine adherence to the RFPG shall be made at distances 5 cm or greater from any object.
- 7) Where electromagnetic fields are present at more than one frequency or for broadband fields, the fraction of the RFPG incurred within each frequency interval shall be determined and the sum of all such fractions shall not exceed unity.

Although initial and annual registration fees are not outlined for Amateur Stations, Amateur Radio is mentioned in several sections of the DEPE proposal as being a significant source of radio frequency radiation that poses health risks to the general public. As a reference, the median fee for commercial users will be approximately \$500 per antenna if this proposal is passed.

The proposed new rules will provide the Department with the financial and informational resources it needs to enforce the radio frequency radiation protection provisions of N.J.A.C. 7:28-42 and are therefore expected to have a positive social impact. The more familiar applications of radio frequency radiation are AM and FM radio, television, amateur radio, microwave ovens, radar, microwave point-to-point and ground-to-satellite telecommunications links, and other communications services. Radio frequency and microwave sources are also widely used in industrial heating and sealing operations. The steady increase in the number of these sources, coupled with a better understanding of their biological effects on human beings, has heightened concerns in the scientific community and in the public about the potential adverse health effects from exposure to this type of radiation.

Non-ionizing radiation sources have steadily increased in number and their uses have so diversified that a general increase in radiation levels in the environment has occurred. Extensive radio frequency radiation measurements made by the EPA have shown that the sources most likely to produce the highest environmental levels are television and radio broadcast stations. Other significant, but less intense, sources of radio frequency radiation are transmitting satellite earth station antennas, microwave point-to-point communications antennas, cellular telephone cell-site antenna base stations, amateur radio stations, navigational aids and radar. Radio frequency heaters and sealers are generally located indoors and it is not currently known how intense the radiation emitted by these is outside the buildings in which they are housed. Because the new proposed rules will support a staff to ensure that all of the aforementioned sources are in compliance with the radiation limits set forth in N.J.A.C. 7:28-42, the new rule will have positive impact of reducing the levels of non-ionizing radiation in the environment. Comments should be directed directly to the Department of Environmental Protection and Energy of New Jersey as outlined above.

Those outside New Jersey aren't out of the clear on this issue because if this proposal passes, it could be justification for a national ruling on radio frequency radiation that could adversely impact Amateur Radio for good!